Rwanda NSCA and Pharmaceutical Supply Chain Strategic Plan Technical Report

Use of the NSCA to develop a National Supply Chain Strategic Plan, A collaborative effort between SCMS/USAID DELIVER and the Ministry Of Health of Rwanda

REPUBULIKA Y'U RWANDA

UBUMWE - UMURIMO - GUKUNDA IGIHUGU

SCMS

Providing quality medicines for people living with and affected by HIV and AIDS

PEPFAR
Implementing Partner

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Acknowledgements

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About SCMS

The Supply Chain Management System (SCMS) was established to enable the unprecedented scale-up of HIV/AIDS prevention, care and treatment programs in the developing world. SCMS procures and distributes essential medicines and health supplies, works to strengthen existing supply chains in the field, and facilitates collaboration and the exchange of information among key donors and other service providers. SCMS is an international team of 13 organizations funded by the US President's Emergency Plan for AIDS Relief (PEPFAR). The project is managed by the US Agency for International Development.

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Acronyms

AD	Active Distribution
AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral (drugs)
BPR	Business Process Reengineering
BUFMAR	Bureau des Formations Médicales Agréées du Rwanda
CMM	Capability Maturity Model
CPDS	Coordinated Procurement and Distribution System
DP	District Pharmacy
DTC	Drug & Therapeutic Committee
EAC	East African Community
eLMIS	Electronic LMIS
EM(s)	Essential Medicine(s)
EMOC	Emergency Obstetric Care
FASP	Forecasting And Supply Planning
FP	Family Planning
FY	Fiscal Year
GF	Global Fund (to Fight AIDS, Tuberculosis, and Malaria)
GMP	Good Manufacturing Practices
GOR	Government of Rwanda
HF	Health Facility
HIV	Human Immuno Virus
HR	Human Resources
HSSP	Health Sector Strategic Plan
JSI	John Snow Inc.
KPI	Key Performance Indicator
LIAT	Logistics Indicator Assessment Tool
LMIS	Logistics Management Information Systems
LMO	Logistics Management Office
LSAT	Logistics System Assessment Tool
LT	Long Term
MCH	Maternal Child Health
MDGs	Millennium Development Goals
MIS	Management Information Systems
MOH	Ministry of Health
MOS	Months of Stock
MPPD	Medicines Procurement and Planning Division
MSH	Management Sciences for Health
MT	Medium Term
NBTC	National Blood Transfusion Center
NEML	National Essential Medicines List

NMRA	National Medicines Regulatory Authority
NSCA	National Supply Chain Assessment
NRL	National Reference Lab
OTD	On Time Delivery
PBF	Performance-based Financing
PFSCM	Partnership for Supply Chain Management
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan
PMS	Performance management System
QA	Quality Assurance
QMS	Quality Management System
RBC	Rwanda Biomedical Center
RDU	Rational Drug Use
RFMA	Rwanda Food And Medicines Authority
RUM	Rational Use of Medicine
SC	Supply Chain
SCM	Supply Chain Management
SCMS	Supply Chain Management System
SDP	Service Delivery Point
SO	Strategic Objective
SOP(s)	Standard Operating Procedure(s)
SOW	Scope of Work
SSFFC	Substandard Spurious Falsified Fake and Counterfeit
ST	Short Term
STG	Standard Treatment Guidelines
TB	Tuberculosis
TOR	Terms of Reference
USAID	United States Agency for International Development
VOTD	Vendor On Time Delivery
WHO	World Health Organization

Executive Summary

In July 2012, the Rwanda ministry of health established the Logistics Management office (LMO) to spearhead supply chain management of all health commodities at all levels of care in Rwanda. The LMO's key function is to provide guidance for the health sector policy formulation for all areas of the pharmaceutical supply chain logistics management system and to coordinate the strategic functions of the SC (Forecasting and Supply Planning, Inventory Management, Product Selection and Use, Management Information Sytems (MIS), HR etc).

To this end, the ministry of health - tasked the LMO in collaboration with other in-country partners, to develop of a 5 year National Pharmaceutical Supply Chain strategic plan. SCMS and USAID|DELIVER supported the strategic plan by facilitating the NSCA as well as the strategic planning workshop

The National Supply Chain Assessment

The National Supply Chain Assessment is a quantitative tool with two components the Capability Maturity Model (CMM) and Key Performance Indicators (KPIs) of a supply chain and its functional areas. assesses a supply chain's capability and performance.

- CMM: This tool is based on industry best practice to determine levels of maturity of SC from the ad hoc to sophisticated, integrated supply chains. Using a scale of 1-5 with 5 being the most mature, each functional area of the Rwanda SC was assessed at the national, district and facility level.
- KPI: Data was collected at each facility for a set of 13 indicators that measured the performance of product selection, procurement, warehousing & inventory management, transportation and SC human resources.

From July 15-30th 2013, a team of 23 data collectors conducted the NSCA, and included, 6 LMO staff[1], 12 District Pharmacists and 5 JSI staff.

Covering 12 districts, the data collection teams assessed 146 facilities. These sites included:

- MPPD
- 15 District Pharmacies (12 sampled districts plus Nyabihu, Rwamagana and Nyamagabe)
- 11 District Hospitals
- 117 Health Centers
- 2 Health Posts

Figure 1: Districts Assessed in NSCA

[1]Note: Only district pharmacies were visited in italicized districts

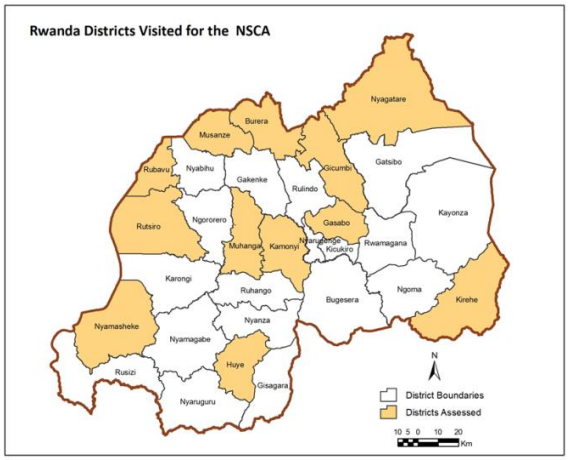


Figure x: Map of 12 Districtis Visited During NSCA

District
Nyagatare
Gicumbi
Burera
Musanze
Rubavu
Rutsiro
Nyamasheke
Huye
Muhanga
Kamonyi
Gasabo
Kirehe
Nyabihu
Rwamagana
Nyamagabe[1]

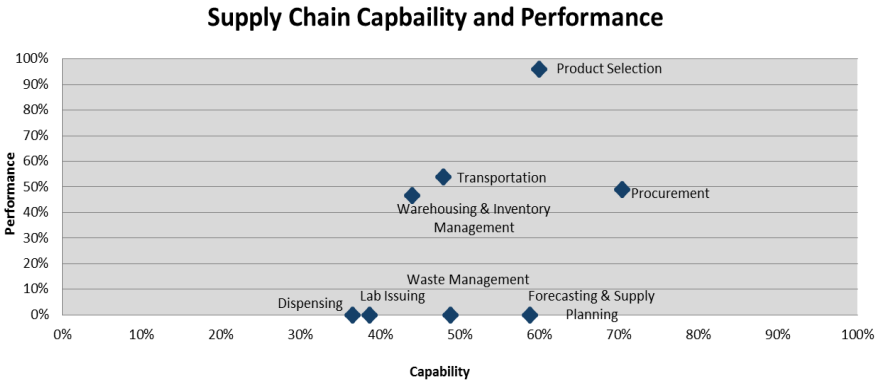
Overall, the capability and performance of the pharmaceutical supply chain in Rwanda varied by functional area. Capability ranged from 70 percent (product selection) to 24 percent (waste management). Performance also varied across the indicators tracked with facility reporting rates at 96 percent and order fill rate from MPPD to the district pharmacies at 47 percent.

Figure 2 : National Level Capability & Performance Scores

National Supply Chain Overall Results		
Functional Area	CMM Score	KPI Score	
Overarching		Stock Out Rate	12%
		Stocked According to	34%
Product Selection	60%	Quality Testing	96%
Forecasting and Supply Planning	59%		
Procurement	70%	Emergency Orders	29%
		VOTD	69%
Warehousing and Inventory Management	44%	Expiry (Qty)	N/A
		Order Fill Rate	47%
Transportation	51%	OTD	54%
Data and Information		Reporting Rate	94%
Dispensing	39%		
Waste Management	49%		
Lab Issuing	37%		
Organization	24%		

Two key SC functions fell at or slightly below average when comparing their capability and performance, including transportation and warehousing & inventory management.

Figure 3: National Level Capability & Performance Scores Comparison



The Strategic Plan

Using the results of the NSCA, an evidence-based strategic plan was developed from September 2nd to 6th 2013. SCMS and USAID|DELIVER provided support to the LMO at a Consultative Workshop for Strategic Planning to develop the strategic plan. The workshop brought together a total of 33 participants from 10 organizations who collaboratively identified priority areas and gaps for continued focus within the pharmaceutical supply chain. Six strategic objectives were formulated and prioritized for implementation, each with several recommendations for achieving the objective. In addition, a performance management framework was mapped out with corresponding KPIs developed for each objective. (See page 45 to reference the performance management framework)

Summary Objectives

1a) Operationalize the LMO as the designated coordinating institution, with the priority objective of ensuring the integration of SC stakeholders and activities.
1b)LMO to coordinate timely quantification, monitoring, and planning of all commodities, including essential medicines.

2) By 2016, achieve a 100% level of capability for key functions of warehousing, transport and waste management using standardized business process best practices.
3) Streamline procurement processes to provide a timely and responsive procurement service, while complying with available and applicable procurement regulations and guidelines
4) Develop and monitor a tool/plan to ensure continuous availability of funds for health commodities and SC operations including planning for reduction in donor dependency where appropriate
5) Put in place a robust performance management and information system for key functional areas at each level of the supply chain to guide timely decision-making and continuous improvement.
6) Strengthen Pharmaceutical Quality Assurance system through the MOH, leveraging regional systems

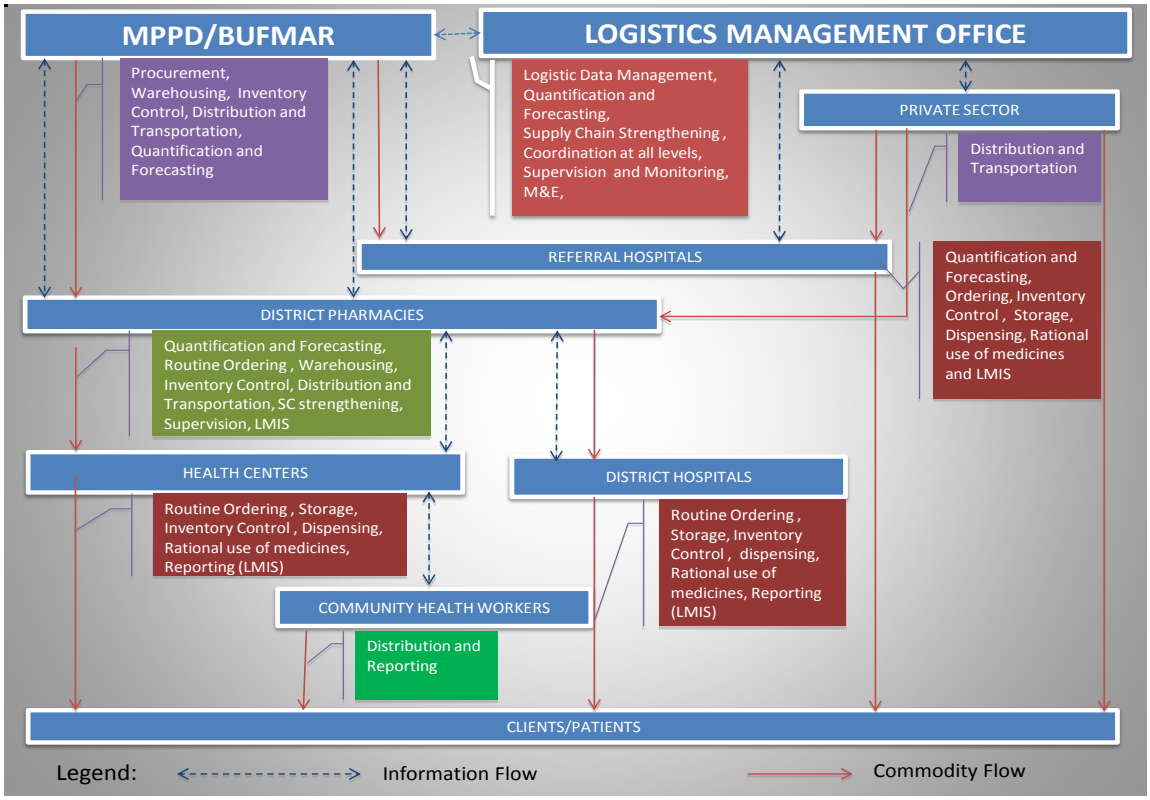
A high level implementation plan and year one budget was later developed and presented to the Honorable Minister of Health for further review. The next steps include development of a full implementation plan and dissemination to stakeholders led by the LMO.

Background

The Rwanda Supply Chain Network

Different levels and institutions (public and private) collaboratively engage to manage and operate the Rwanda SC. The National level supports DPs and SDPs to increase access to healthcare commodities to clients. The private sector complements the public sector for the supply of commodities, even though the public sector provides bulk of the commodities. Information flow through the network provides data and feedback useful for decision making at all levels. The table below outlines the flow of commodities and information through the SC

Figure 4: Rwanda Supply Chain Network



To enable coordination of the diverse functions and teams in the Rwanda SC, the GOR established the LMO. Collaboratively, the LMO with other in-country SC stakeholders participated in the strategic planning workshop whose main goal was to enhance capability and performance of the National Pharmaceutical Supply Chain. At a lower level this involved

- Identifying performance gaps within the SC
- Prioritizing key interventions for each functional area of the SC
- Formulating Objectives and Key Performance Indicators (KPIs)
- Mapping out roles and responsibilities for each stakeholder

Methodology

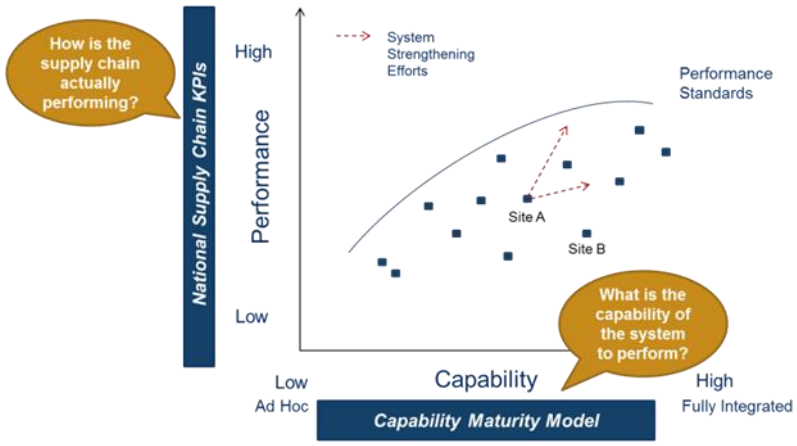
The National Supply Chain Assessment Toolkit

The National Supply Chain Assessment is a comprehensive tool kit that was collaboratively developed by SCMS, USAID|DELIVER and SIAPS. It assesses the capability and performance of supply chain functions at all levels of a health supply chain. The results of the assessment help supply chain managers and implementing partners develop their strategic and operational plans and monitor whether activities are achieving their expected outcomes.

Figure 5: Capability & Performance Comparison

- **Capability Maturity Model (CMM) Diagnostic Tool**
  The CMM is a quantitative diagnostic tool that assesses the capability maturity of a supply chain

- **Supply Chain KPI Assessment**
  The Supply Chain KPI Assessment is a set of indicators that comprehensively measures the performance of a SC



Sampling Methodology

In order to ensure that the NSCA encompasses a comprehensive, representative picture of the national health supply chain a cluster sampling methodology was used to choose the sites visited during the assessment.

First, a random sample of districts was chosen using the excel =RAND function. After the districts to be surveyed were randomly selected, the =RAND function was used to randomly determine the sites to be visited within those 12 districts.

The number of facilities of each type in the sample represent the stratification of the facility types across the country.

Figure 6: Sample Size by Facility Type

Facility Type	Total	% of Facilities	# for Sample

MPPD	1	.01%	1
District Pharmacies	30	5%	15
Referal Hospitals	5	1%	1
District Hospitals	43	6.0%	12
Health Centers	488	78.0%	116
Health posts	44	7.0%	6
		Total	**151**

Using a list of all facilities in the 12 districts, the sample was randomly chosen according to the defined paramaters (i.e the first 116 health centers within the 12 districts were chosen for the sample). This methodology led to a total list of 151 sites. This sample size allows for 95 percent confidence in the representation of the general population being surveyed (i.e. health facilities) with a possible 7 percent margin of error.

Data Collection

The data collection and interviews were conducted by 10 data collection teams with two members each. Each team was assigned a district and conducted site visits at the facilities within that district identified in the sampling exercise. District pharmacists were not sent to their home districts to avoid potential bias.

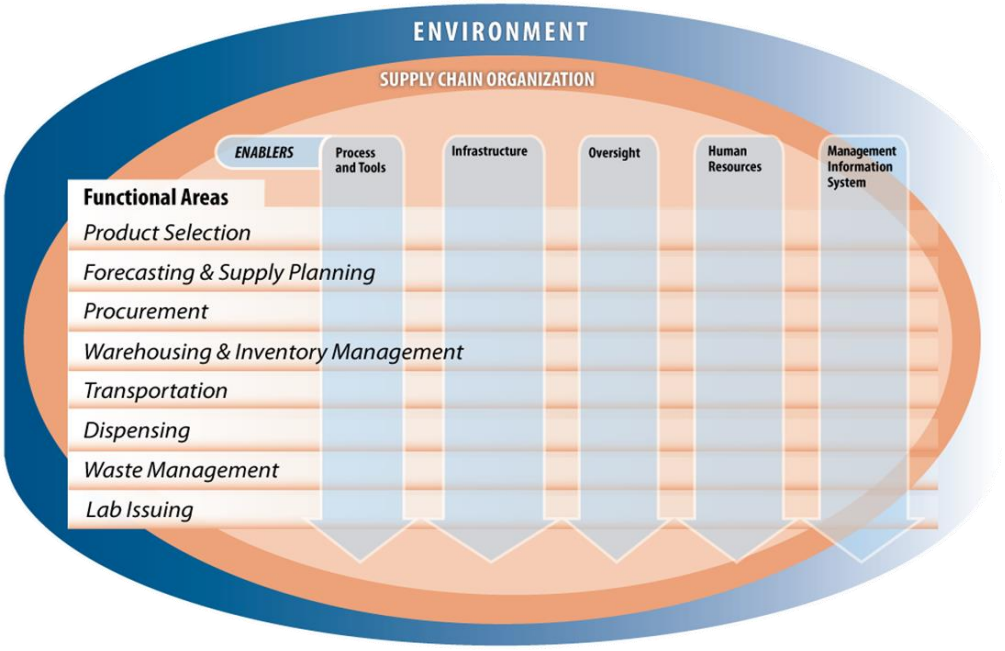
At each site the data collection team undertook two exercises

- Interviewed the stock manager and/or the health facility manager using the relevant CMM questionnaire(s). Interview results are verified by direct observation of the relevant supply chain space such as a store room or warehouse.
- Collected relevant KPI data using source data such as stock cards, LMIS reports, pro-formas, orders and delivery notes.

CMM Tool

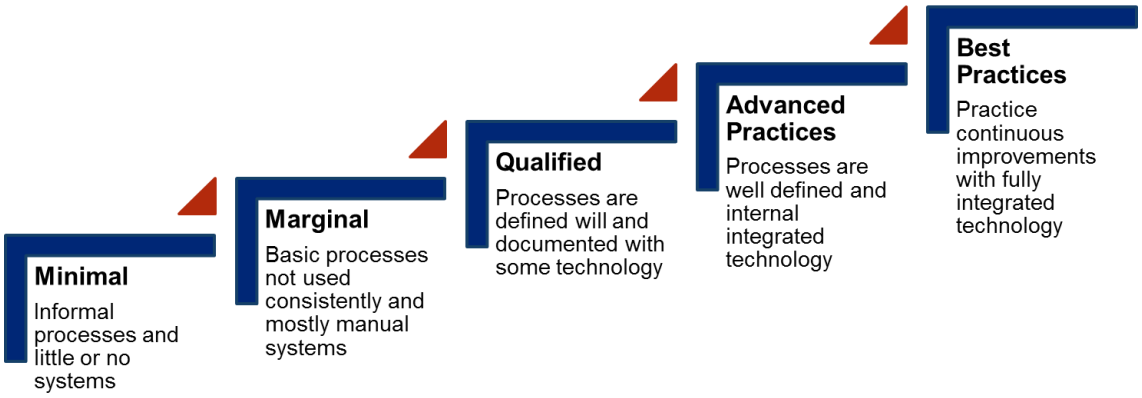
The CMM tool was implemented at each level of the supply chain, including health post, health facilities (Health Centers and District Hospitals), district pharmacies and the central level. It covered the key functional areas of the supply chain as well as measuring key "enablers" that impact all functions across the supply chain. For each functional area, scores are assigned for each capability, aggregated to understand the functional area as a whole as well as the enabling elements impacting the functional area which include; processes and tools, infrastructure, oversight, human resources and management information systems (MIS).

Figure 7: NSCA Guiding Framework



The overall maturity scale with broad definitions of what each level represents the idea of supply chain capability at each level of maturity 1-5. These levels were adapted from private sector best practice capability maturity models used to assess commercial supply chains.

Figure 8: Capability Maturity Scale



Each capability within the tool was assigned a score of 1-5 (characteristic of each score specifically defined for each measure) by data collection teams based on the interview responses and direct observation at each site visit. Each capability has specific attributes that must be met to reach a particular score level.

Figure 9: Specific capability example

Level: Central Warehouse Functional Area: Warehouse and Inventory Management Enabler: Infrastructure Capability: Building and power				
□ Warehouse has a roof and floor for storing product □ There is no power	□ Warehouse has a level floor with some semblance of storage and staging areas □ There is intermittent power	□ Warehouse has a separate receiving and dispatch area □ Regular power	□ Warehouse has designated operational areas □ There is a generator	□ The warehouse has a battery back-up for cross over time to the generator kicking in

Three levels of the CMM questionnaires were used (central, district and health facility level) covering nine functional areas at each level of the supply chain.

Figure 10: CMM Questionnaires by Level

Functional Area	MPPD	District Pharmacy	Health Facilities
Product Selection			
Forecasting & Supply Planning			
Procurement			
Warehousing & Inventory Management			
Transportation			
Dispensing			
Waste Management			
Lab Issuing			
Organizational			

KPI Tool

At each site visit the data collection teams also collected data for several KPIs. The data sources were collected and evaluated for each indicator with data entered into the excel score sheets. Similar to the CMM tool, different KPIs were implemented at each supply chain level based on strategic needs and feasibility.

Figure 11: KPIs by Level

KPI	MPPD	District Pharmacy	Health Facilities
Stock Out Rates			
Stocked According to Plan			
% of Products Procured on NEML			
VOTD			
% of Emergency Orders			
Order Fill Rate			
Order Turnaround Time			
Facility Reporting Rates			
Staff Turnover Rate			

Several of the indicators required a list of tracer commodities. The tracer commodities were decided by the data collection teams which included key central and district level staff with a comprehensive understanding of the health supply chain in Rwanda. These commodities cover essential medicines and key program areas.

Figure 12: Tracer Commodities

Tracer Commodities	
Product Name	**Product category**
TDF+3TC+EFV	ARVs
Coartem 6x4	Anti-malarial
Depo Provera	Family Planning
Amoxicillin Capsule	Essential Medicines
Catheter G24	Consumables
Rifampicin/Isoniazide	TB
Cotrimoxazole	OI
Oxytocin Injection	Emergency Obstetrical Care (EOC)
Determine RTK	Lab
Zinc Sulfate	Community Health

Results and Analysis

Analysis was conducted using excel and access based tools. For the purpose of presentation of results, all CMM scores are converted to a 0-100% scale rather than 1-5 scale.

1=20%
2=40%
3=60%
4=80%
5=100%

Data was quality checked throughout the assessment to identify any data quality issues or anomalies. Issues identified were addressed during the assessment to allow for timely correction when possible. Even with this effort, some data quality issues still exist..

KPIs:
Due to data quality issues, some sites were not included in specific KPIs.

CMM:
Orientation was provided on the NSCA tools including a 'test run' day when the assessment teams conducted CMM interviews and collected KPI data at facilities in Kigali. The teams reconvened at the end of the day to answer any outstanding questions. In addition to an orientation to ensure that all data collectors had common understanding of capabilities, data quality checks aimed to capture any anomalies or differences in interpretation of capabilities throughout the assessment.

Strategic Planning Methodology

Small group and plenary discussions were held and brainstorming sessions utilized to arrive at deliverables.
References were made to existing tools and documents, which were in turn adapted to the Rwanda context and needs as necessary. Existing statutory documents were the basis upon which the Rwanda Pharmaceutical Strategic Plan was developed. The team referenced the Health Sector Strategic Plan (HSSP) III, the Ministry of Health (MOH) website, Rwanda Biomedical Center (RBC) vision and mission, Medical Procurement and Production Division(MPPD) mission statement, the Vision 2020 governance document, and the Millennium Development Goals

(MDGs) to identify supply chain functions that are instrumental to increasing access to healthcare commodities.

Four groups were constituted around 11 thematic functional areas identified as being critical to the performance of the Rwanda supply chain – each group had representatives from relevant Rwanda SC stakeholders:

1) SC Coordination and Monitoring; Human Resources; and Finance
2) Product Selection & QA; and Procurement
3) Forecasting and Supply Planning (FASP); and LMIS
4) Warehousing& Inventory Management; Transportation; and Waste Management

Each group reviewed the current situation for their functional area and identified gaps that helped them map out intervention strategies for each area.

The strategic plan was conducted in the following steps (or phases) including:

- Step 1: Gap Analysis & Recommendations
- Step 2: Objective Setting
- Step 3: KPI Formulation and Testing
- Step 4: Stakeholder Mapping

Step 1: Gap Analysis & Recommendations
Within the small groups, facilitated discussions were held to identify performance and capability gaps that needed to be addressed in the next 5 years in order to achieve the strategic objectives of the national SC. References were made to findings from the National Supply Chain Assessment and other SC assessment reports (e.g LIAT/LSAT). Each group brainstormed strategic interventions to address the gaps, findings, which were discussed in plenary for further input. The recommendations were prioritized through a group voting session ("Gallery walk") where each participant selected their 7 top recommendations for strengthening the supply chain. The key findings section (page. 20 to 41) comprehensively outlines a list of gaps identified by functional area, including group discussion points regarding strengths, enablers, opportunities and threats.

Step 2: Objective Setting
Using the results from the gap analysis exercise, the recommendations with a score of 10 and above were further refined into SMART objectives that resulted in 6 objectives being developed by the functional teams

Step 3: KPI formulation and Testing
-After identifying gaps and recommendations, using existing resources on SC performance management a pre-consolidated list of KPIs was provided to the functional teams to review and identify relevant KPIs per strategic intervention and strategic objective. The KPIs were tested by the teams and weighted based on the following set criteria;

- Usefulness of indicator for strategic decision making

- Data availability and quality
- Ease of indicator implementation (feasibility)
- Program Impact

Using the testing results, stakeholder discussions led to the development of the final set of KPIs.

Step 4: Stakeholder Mapping
Based on a stakeholder mapping exercise, the teams proposed a clear assignment of roles and responsibilities to each stakeholder using the delineation of a RACI rating:

- **R**- Responsible : indicating entity with overall oversight and strategic influence to achieve a given strategic objective or intervention
- **A**-Accountable : identifying the entity tasked to execute a strategic objective or intervention
- **C**-Contributor: relating to the entity that will provide assistance or give technical/ strategic input to achieving an objective or intervention
- **I**-Inform: identifying the entity to be informed of or to provide information to the efforts/activities of an objective or intervention in recognition of their strategic or operational involvement with the objective or intervention.

Key Findings

The government of Rwanda, supported by SCMS and USAID DELIVER, completed a five year National Pharmaceutical Supply Chain Strategic Plan. The following section provides an overview of the key findings from both the National Supply Chain Assessment and the strategic planning consultative workshop.

National Supply Chain Assessment

The pharmaceutical supply chain capability and performance were assessed across the central, district and facility levels.

Overall, the capability and performance of the pharmaceutical supply chain in Rwanda varied by functional area. Capability ranged from 70 percent (product selection) to 24 percent (waste management). Performance also varied across the indicators tracked with facility reporting rates at 96 percent and order fill rate from MPPD to the district pharmacies at 47 percent.

Figure 13: National Supply Chain Assessment Overall Results

National Supply Chain Overall Results					
Functional Area			CMM Score	KPI Score	
Overarching				Stock Out Rate	12%
				Stocked According to	34%
Product Selection			60%	Quality Testing	96%
Forecasting and Supply Planning			59%		
Procurement			70%	Emergency Orders	29%
				VOTD	69%
Warehousing and Inventory Management			44%	Expiry (Qty)	N/A
				Order Fill Rate	47%
Transportation			51%	OTD	54%
Data and Information				Reporting Rate	94%
Dispensing			39%		
Waste Management			49%		
Lab Issuing			37%		
Organization			24%		

Two trends were highlighted across all functional areas in the supply chain.

1. Strong performance of program product supply chains, while the essential medicines supply chain faced challenges.

   Overall, performance indicators for program products were higher than for essential medicines. With the exception of malaria, emergency orders for program products were limited. Stock out rates were generally lower for program products (ARVs 10%, Family Planning 6%, TB 5%).

   Although program products enjoyed relatively successful performance, essential medicines did not perform as well in some functional areas. At MPPD, 88% of essential medicines procurements were placed as emergency orders from January-June 2013. Although this data was not captured quantitatively, assessment of paper work at district pharmacies revealed that most low-stock products reported in the weekly status updates to the LMO and expiry reports were for essential medicines.

2. Across all functional areas, the capability of the supply chain in regards to SOPs and performance management was weak.

Figure 14: SOPs and Performance Management Capability by Functional Area

Functional Area	Capability					
	Central		District Pharmacy		Health Facility	
	SOPs	Perf Man	SOPs	Perf Man	SOPs	Perf Man
Forecasting & Supply Planning	40%	20%				
Procurement	60%	20%				
Warehousing & Inventory Management	60%	20%	24%	24%		
Transportation	60%	20%	21%	38%		34%
Waste Management	70%	80%	21%		22%	40%

For the most part, SOPs were only present at MPPD as 20% capability indicated that no SOPs are in place. For the most part interviewees indicated that they understood the processes they were

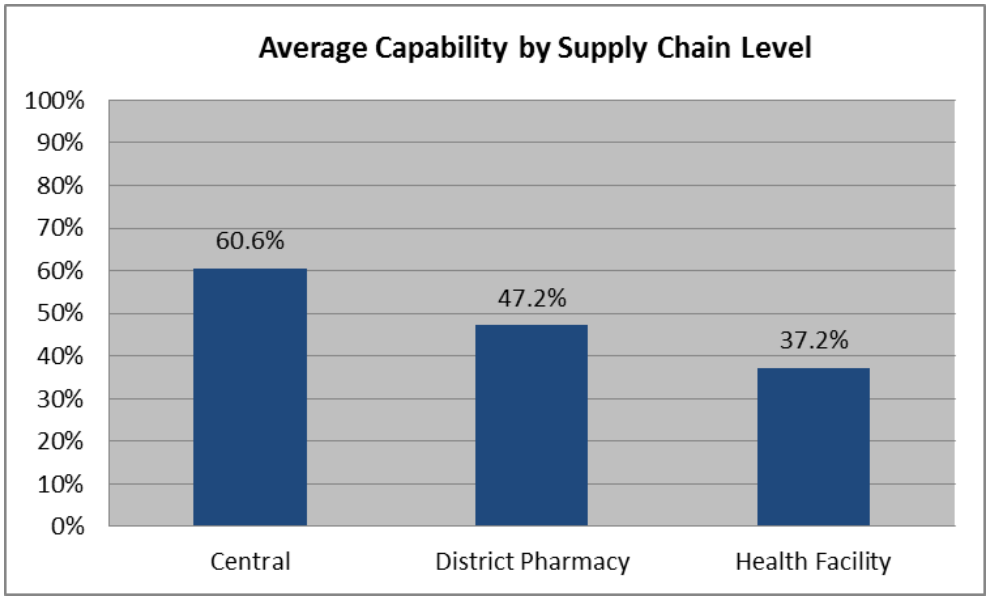
expected to carry out but no formal documentation was in place at the lower levels of the supply chain.

Performance management was even less prevalent with only waste management at the central level and a few health facilities/district pharmacies implementing performance management at their own initiative. At the sites visited, little to no measurement of performance was being conducted at any functional area or level of the supply chain

Capability:

Capability of supply chain functions range from 24% for organizational capability to 70% for procurement capability. The aggregated average national capability of the public health supply chain in Rwanda is at 48% (2.44), for central, district and health facility levels. Average scores for each supply chain level range from 60.6% to 37.2% from the central level to the health facility level respectively.

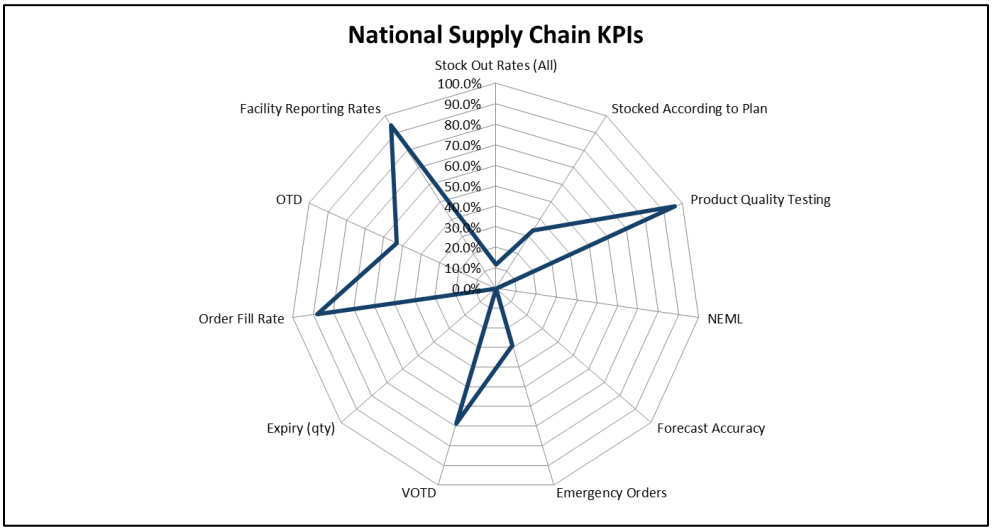
Figure 15: Overall Capability by Supply Chain Level



Performance:

Performance varied at the national level, with some successful indicators of on-time facility reporting rates to MPPD (94%) and percentage of products passing quality testing (96%) and stock out rates for tracer commodities (12%). Others presented challenges such as order fill rate (47%) and on-time delivery (54%) from MPPD to the district pharmacies.

Figure 16: Overall KPI Scores



Strategic Planning Workshop

In the following sections, the key findings of the strategic plan are outlined for the following steps of the strategic planning consultative workshop.

Step 1: Gap Analysis
Step 2: Objective and Recommendation Development
Step 3: KPI Formulation & Testing
Step 4: Stakeholder Mapping.

Assessment Results & Gap Analysis

The results of SCMS National Supply Chain Assessment provided a framework for the gap analysis exercise and formed the basis for reviews of existing capabilities and performance of the SC. In addition, the USAID|DELIVER LIAT/LSAT assessment[i] findings were also referenced to arrive at the key gaps.

Below is a high-level summary of key assessment results and gaps identified by functional area as well as a summary of additional considerations (namely strengths, enablers or risks by functional area) for the following:

- Product Selection & Quality Assurance
- Forecasting & Supply Planning, Financing
- Procurement
- Warehousing & Inventory Management
- Transport
- Waste Management
- LMIS
- Human Resources

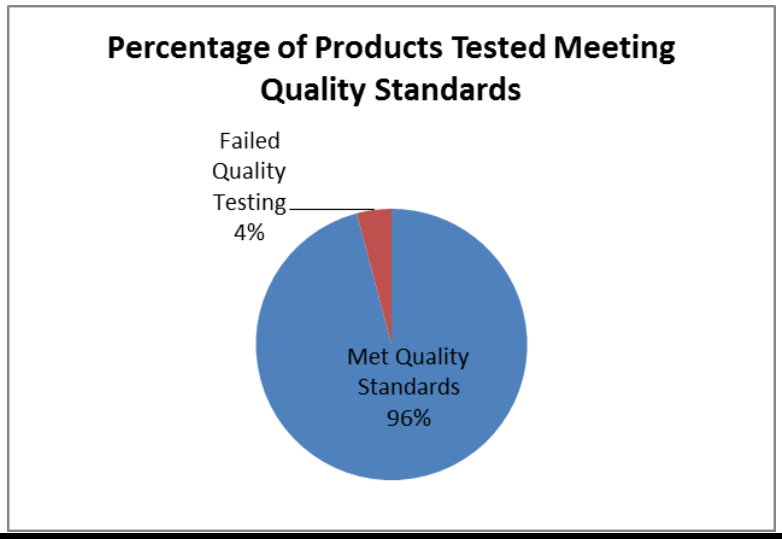
- Finance
- Supply Chain Coordination & Monitoring

Product Selection & Quality Assurance

Assessment Results:

Product selection capability in Rwanda is slightly above average with an overall score of 60%. Overall 96% of product batches tested from January-June 2013 had no quality issues. Only 6 batches of essential medicines presented any problems which were addressed by MPPD.

Figure 18: Product Quality Testing Performance



Strategic Planning Gaps Identified:

Product Selection & QA	
Gaps	
Governance/Policy	• No formal (documented) specification system in place to allow the proper selection and then procurement of health products (e.g., EDTA lab tubes) → right experts not engaged to do specification but should also not be person-dependent [All products on NEML are not 100% available at MPPD level • No Strong regulation pharmacy sector (No GMP teams to monitor manufacturers…) → need regulatory authority
Processes	• Product quantification is done by MPPD at national level • Lack of official dissemination and distribution system for key documents related to supply chain/products at health facility level (e.g., for dissemination of tools only at trainings or AD) • Lack of harmonization of drug selection processes at district level – DTC practice at DP level not adhered to by DPs [what is consequence for non-adherence].
Other Considerations	
<u>Risks that negatively impact capability & performance:</u> • Duplication of names on the selected health products list(technical names, English, French) • No adequate quality assurance/quality control system in place. • No pharmacist/technician in the drug importation department.	

- Insufficient resources (human, infrastructure, financial etc.) to monitor the pharmaceutical sector.

General Note:

- The team was of the view that the rating provided for product selection was not reflective on current situation. This is because the WHO list in use has been customized for Rwanda
- The team noted that most of the procurement processes/procedures are covered within the public procurement law of Rwanda (this is from requisition, tendering to reception of health products). This relates to the following items in the CMM tool: 3a5, 3a6, 3a7, 3a8,3d3, 3d4 and 3d5
- Quality Assurance and Quality Control systems are cross cutting across the entire system and include existence and update of SOPs etc. (3a10, 3a11 and 3a13)

Forecasting & Supply Planning

Assessment Results:

Forecasting and supply planning capability overall is 40%, but within the functional area the different enablers vary significantly. Although human resources are adequate at 80% processes and tools are in the middle of the capability spectrum at 52%.

Strategic Planning Gaps Identified:

Forecasting & Supply Planning	
Gaps	
Governance/Policy	• No committee for quantifying essential drugs • Change of protocols (STG) not adequately considered in long term planning • Lack of quantification committee for essential medicine • program targets are unrealistic • Outdated product descriptions • Lack of coordination for some commodities • Regular (annual) forecasting and Bi-Annual review done for some commodities
Processes	• No formal procedures for data maintenance and sharing • No clear data quality assurance process e.g. RDQA • No regular monitoring of essential medicine supply plan • Insufficient Coordination of all stakeholders • Understanding and application of the procurement Law

	• No clear process and frequency for more than 2 years • No ownership of SOPs • No Detailed SOPs for supply planning • Quantification methodology not harmonized and integrated for all commodities • No clear data sharing process • LMIS data collection is not institutionalized • No clear defined processes for supply planning data collection (vendor delays, pending shipments) • Undocumented data collection procedures for forecasting • Data collection for forecasting (for some commodity group) is not institutionalized • Lack of data collection guidelines
Tools/Infrastructure	• Lack of real time national scale data for forecasting • Lack of electronic logistics tools at SDP levels • Limited availability of computers at HF Pharmacies • Limited computer skills • Data not fully utilized • Data is not visible in real time • Limitation of essential medicines tools (Excel) • Limitation of supply planning software (Manually intensive) • Multiple (disparate) forecasting tools and software used • Essential medicine data is incomplete • Lack of consumption data for most of the essential medicine • Lack of real time national scale data for forecasting
Resources (Human/Finance)	• Low priority allotted to supply activities at lower levels • Staff not fully designated to the SCM activities • Core competencies for this function are not documented • High SCM staff turnover at lower level • No funding budget/planning for essential medicines • Funding (Changing Donor Priorities) • Donor Dependency - no budget line for supply plan • No funding budget/planning for essential medicines
Performance Management	• No Performance Management System in place/KPIs • Lack of defined procedures to measure accuracy of the forecasts • No clear data quality assurance process in place • No regular monitoring of essential medicine supply plan

Other Considerations - Strengths	
Long term planning for financing:	Government Commitment
	Quantification Team for CPDS, MCH, Malaria
	Donor commitment
	Government funding of some products
	Forecasting and supply planning for 2 years
Forecasting Methodologies/Assumptions	Forecast methodologies exist for program products
	Assumptions are driven by programmatic objectives and are based on real data
	Annual forecasting reports with methodologies and assumptions

	Regular (annual) forecasting and Bi-Annual review done for some commodities
	Bi-annual review
Forecasting – Data Collection Process	Adequate tools for collecting data tools (LMIS/HMIS/ Tracnet/Siscom/SAGE)
	Expertise in data collection
Forecasting – Data Quality	Forecast data is available
Forecasting – Ability to measure accuracy of the forecast	Program Data and people are available
Supply Planning – Data Collection Process	Semi - annual inventory countrywide
	Annual quantification
	Stock on hand and received shipment is readily available
Supply Planning – Data Quality	Supply data is available
Supply Planning – Flexibility and monitoring	Quarterly review of the supply plan
	Ability to change
	Contract Framework with min/max levels
Constraints SOPs for forecasting and supply planning	Some SOPs for basic operations exist
	Knowledge of processes
Constraints Supply Planning - SOP Document Control	Coordinating entity in place (LMO)
Management Information - Forecasting Tools and Software	Tools exists
	Capability to use tools exist
Management Information – Supply Planning Tools and Software	Tools exists
	Capability to use tools exist
Data for decision-making	Data exists
	Data is used to improve processes
Office Equipment including computers	Central and district level have adequate computers
	Government commitment
Forecasting – Level of Country Ownership	MOH has ownership of forecast result
	Country involvement in forecasting
	MOH resources are available to support forecasting
	Senior MOH leadership participate in forecasting
	Forecast is developed via collaborative exercise that includes all partners involved in the supply chain (CPDS)
Constraints Performance Management	Performance data available
Human Resources	Staff designated to complete supply chain activities at central facilities
	Key skills are outlined in the job description

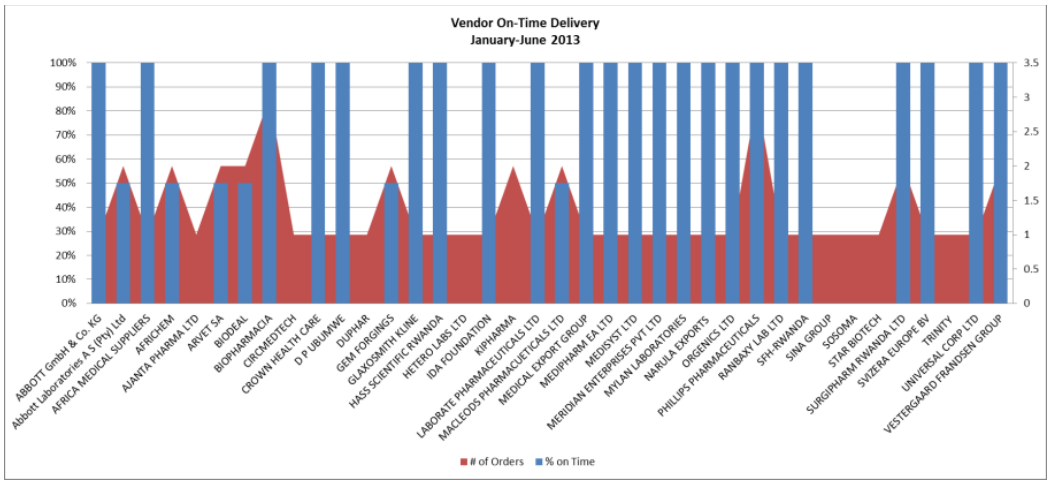
Procurement

Assessment Findings:

Overall procurement capability in Rwanda is relatively high at 70%. Human resources and oversight stand out as high performing areas. MPPD scores very high on several important oversight capabilities in procurement. Auditing (80%), ethics (100%) and internal controls (100%) illustrate the capability of the procurement unit to conduct procurement with sufficient oversight to prevent corruption.

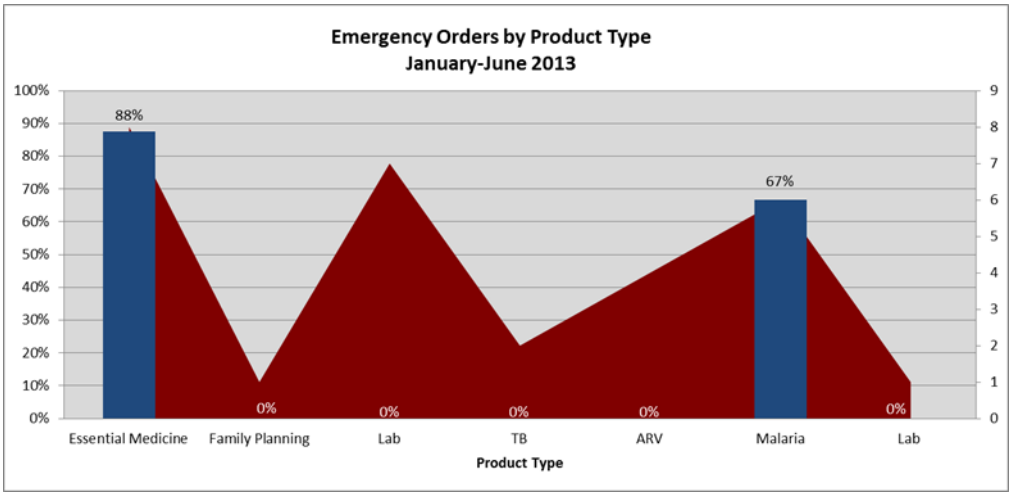
During the period of January-June, -37 different vendors delivered orders to MPPD. No vendor accounted for more than 5% of the orders, highlighting that MPPD is currently using a large number of vendors for relatively small number of orders delivered (51). Of the 37 vendors- two vendors delivered three orders, nine vendors delivered two orders and 26 delivered only one order.

Figure 19: Vendor On-Time Delivery



In addition to the vendor performance, the emergency order situation at MPPD and the district pharmacies was assessed. Of the 62 orders that were placed 18 were classified as emergencies, totaling 29%. The percentage of emergency orders drops to 5% when looking at the value of the orders placed. Two product categories accounted for the majority of emergency orders including essential medicines (88% of orders as emergency) and malaria at 67% which can be accounted for by the country-wide stock out in January.

Figure 20: Emergency Orders by Product Type



Strategic Planning Gaps Identified:

Procurement	
Gaps	
Governance/Policy	• No Strong regulation of pharmacy sector (e.g. NMRA) • prequalification document • No strategic plan related to procurement • Gaps between practice and documented SOPs e.g. CPDS governance document
Processes	• National procurement plan not well implemented • No procurement procedure manuals at District and Health facility levels • No Item master management i.e. category management • Many products are procured on local markets which sets high the pharmaceutical products prices
Tools/Infrastructure	• No MIS is used for procurement processing and procurement decision making (the MIS does not relate to WMS, and eLMIS
Performance Management	• No formal vendor performance management in place • Pre-qualification SOPs are not implemented, even though this is a requirement as described in MPPD • No internal performance management system in place for procurement unit
Other Considerations	
Key Success Factors: • Regular audits: compliance with the law • Transparency of procurement processes • Human resources* • Supplier prequalification procedures in place *the assessment gave MPPD high score on Human Resources while staffing in the procurement unit (use of temporary staff and absence of a Procurement Director is an issue). Issue of existing skill levels need to be addressed if any) Constraints: • Adequate availability of Funds for procurement • Regulations over emergencies not strengthened • Finalize the restructuring of MPPD • No proper sharing of information at all levels of supply chain and inside each level. • Procurement law is general to all kind of products, no specificity for health products (No pharmaceuticals procurement policy) • Limited staff in procurement system of the whole supply chain at central and peripheral level	

Warehousing

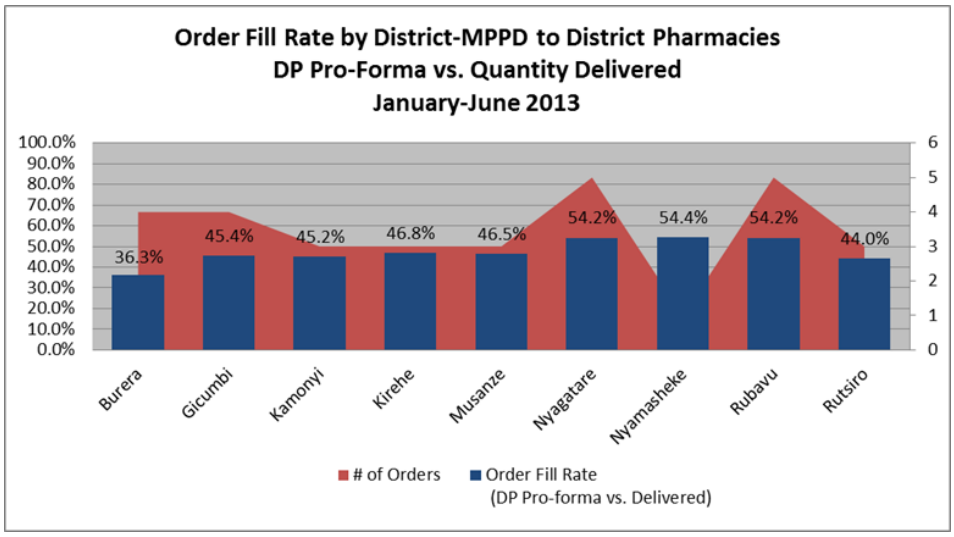
Assessment Findings:

Warehousing and inventory management capability was assessed at every level for the supply chain including, MPDD, district pharmacies and-health centers/health posts. The aggregated warehousing capability for all levels was low at 44%. When looking at each level of the supply chain, capability declines from 52% at the central level to 41% at the health facility level.

Order Fill Rate

Order fill rate from MPPD to the district pharmacies was 47% overall but varied by district ranging from 36.3% to the Burera district pharmacy and 54.4% to the Nyamasheke district pharmacy

Figure 21: Order Fill Rate by District



Strategic Planning Gap Identified:

Warehousing & Inventory Management	
Gaps	
Processes	• Lack of defined business processes/SOPs (at DP and facility level) • No System for expiry management
Tools/Infrastructure	• Storage space for warehousing • Data visibility and automation for inventory data not available to lower levels to know higher level organization/MPPD stock levels [consider that non-availability list also needs to captured as data for MPPD] • Infrastructure standards are not in place at all levels from MPPD to HF level
Performance Management	Lack of performance management system – indicators for PBF tool are not adequate for warehousing operations and the process is lacking at DP and MPPDs
Other Considerations	
Central Level: MPPD	

Strengths

1. WMS exists at MPPD
2. Warehouse processes defined well with SOPS in place
3. Skills and competency of staff are good
4. Site security is in place and power supply is constant with back up

Opportunities

1. Availability of support from development partners
2. MPPD has many permanent clients with high cost recovery rate by DPs

Threats

1. No system to measure the accuracy of client orders
2. Potential stock outs due to inaccurate quantification & supply planning
3. Long procurement processes and inflexible procurement policies impact timely receipt of product.
4. Lack of standardized list of product for clients to order from

District Level: District Pharmacies

Strengths

1. Qualified staff
2. Strong paper-based LMIS system
3. Physical counts conducted every month
4. Weekly stock level report submitted
5. Expiry stock separated from main stock
6. DP business plan has a risk management component

Opportunities

1. Permanent clients (health facilities)

Threats

1. Cost recovery system, debts from facilities
2. Lack of local disposal options for expiry products (I.e. incinerator)
3. Lack of upstream integration
4. Conflicting instructions on autonomy of the district pharmacy
   MOH: Autonomy is given to the pharmacy and board
   MOF: Power is given to the executive secretary of the district
5. Lack of standard list of products to order from

Health Facility Level: District Hospital, Health Centers, Health Posts

Strengths

1. Regular receipt of product from DP

Opportunities

1. Direct budget support for pharmaceuticals goes to the government

Threats

1. Cost recovery from mutuelle
2. Low availability of product at DP
3. Lack of adherence to STG

Transportation

Assessment Findings:

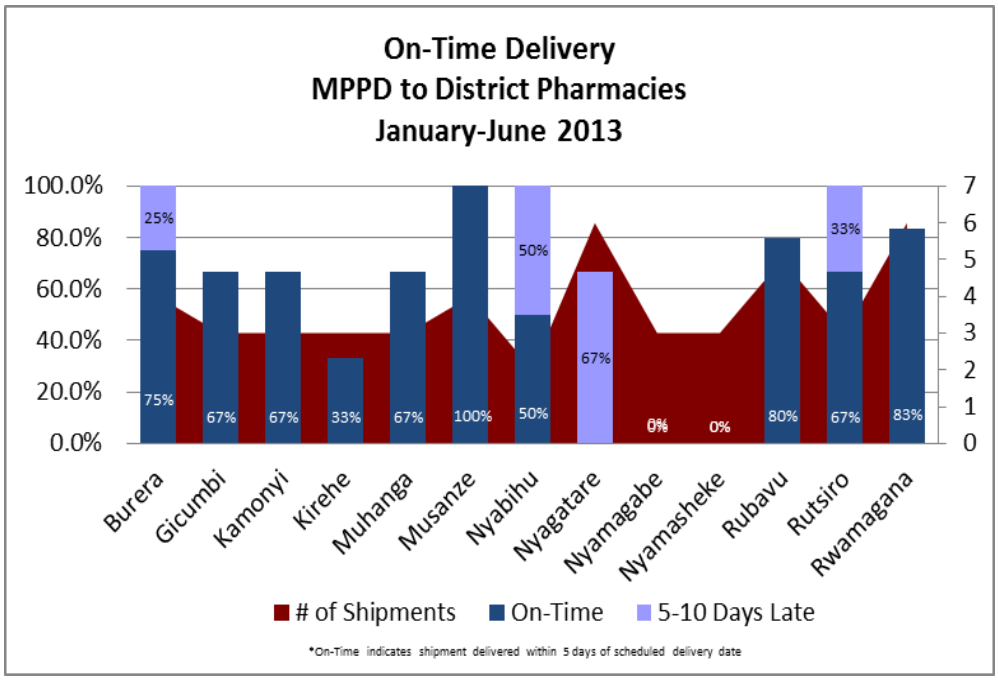
Transportation infrastructure in Rwanda is strong with trucks available to MPPD and the district pharmacies. In addition, MPPD and some district pharmacies have active distribution plans in place regularly scheduling orders to their clients.

Despite these infrastructure strengths, some capabilities assessed at MPPD and the 15 district pharmacies, are relatively weak. Although most facilities surveyed had trucks available for distribution to their clients respondents indicated that capacity to meet demand (57%) and adequate fleet management (49%) are issues.

On-Time Delivery

Only 54% of active distribution orders from MPPD to DPs were delivered within 5 days of the scheduled delivery date. Although the active distribution system is in place and a delivery schedule is produced there seemed to be issues with adherence to this schedule. This seems to be more prominent for some districts than others.

Figure 22: On-Time Delivery by District



Strategic Planning Gaps Identified:

Transport	
Gaps	
Processes	• No SOPs at district pharmacy/Outdated SOPs for transport at MPPD • Lack of fleet management at DP level • Security measures for transportation are not in place • Lack of communication and action plan to address issues with contract management for fleet outsourcing
Resources (Human/Finance)	• Insufficient resources (HR & finance) at MPPD to meet emergency order demand

Performance Management	• No formal performance management for transport

Other Considerations

Central Level: MPPD

Strengths

1. Capacity to outsource transportation at MPPD
2. Trucks of several sizes are available as needed
3. Active distribution activity/schedule in place
4. Integrated distribution (transport all commodities)
5. Weekly plan for emergency deliveries
6. Most of the time sufficient cold chain boxes available for transport

Opportunities

1. Improved outsourced fleet contract management (i.e. specifications, performance management)
2. Improvement of security management procedures (include MPPD personnel, implement delivery books/seals)

Threats

1. Outsourcing contract for fleet is managed through MINIFRA (general government contract, not MPPD specific)

District Level: District Pharmacies

Strengths

1. DPs each have a vehicle with appropriate infrastructure
2. DP vehicle capacity sufficient to deliver monthly orders and retrieve emergency product from MPPD
3. Delivery books available to log km traveled (some fuel consumption monitored)
4. Vehicles are covered by insurance
5. Quantities of product checked at each facility

Opportunities

1. DP trucks should be used as plan B for receiving products from MPPD
2. Comprehensive insurance for transport and product is available

Threats

1. Potential budget challenges in paying for the maintenance/fuel for trucks

Waste Management

Assessment Findings:

Waste management presents several opportunities for improvement, with most categories scoring below 45%. Of particular note, two key process capabilities have low scores including handling/internal transport (28%) and disposal (30%). It is important to note that capability at the central level is relatively high while the district and facility levels have significant waste management challenges.

Data collected from the sites reflected gaps in waste management capabilities within the supply chain. Expiry management and disposal of expired products was a problem across the supply chain. Expired and unusable products were stockpiled at district pharmacies due to weak reverse logistics. These significant volumes of unusable stock stored at these facilities impedes on storage space for usable product in facilities where storage space may already be limited.

Strategic Planning Gaps Identified:

Waste Management	
Gaps	
Processes	• Guidelines for disposal methods of different commodities are not in place • SOPs are not in place (Cost incurrence, transport responsibility, storage guidelines)
Tools/Infrastructure	• Lack of adequate handling of expiries owing to inadequate space for proper storage of (not always space for adequate separation of products, MPPD is currently renting 'expiry warehouse') at DP and HF level • Lack of safety equipment in place for handling of special/hazardous product (only gloves at MPPD)
Other Considerations	

District Pharmacy/Health Facilities

- Informal processes are in place but they are not based on an reference or standards
- Infrastructure is lacking

1) Handling of unusable pharma: gloves or other protective equipment are missing)
2) Transport: Varies by district. In some districts the HF is responsible, in some it is the DP.
3) Destruction: Incinerators are not common and even when they are in place there are not well-defined or documented processes for destruction of products

- Space constraints at DP & health facilities make appropriate separation of usable and unusable products.
- Cost of incineration is a burden to health centers; process is changing from where DP is encouraging the health facilities to manage the destruction of product rather than the DP.
- At DP level, DP is responsible for dealing with disposal of waste that is either delivered from health facilities or expiry at the DP. They contract private incinerator owners to arrange for incineration and prices are set by the owner (DH or other)
- Incinerators are currently being put in place by the GF but there is confusion regarding who incurs the cost for incineration.
- Two processes in place depending on waste 1) Pharma 2) Medical waste DPs only responsible for pharma
- Expiry is weighed for volume and a report is sent to the MOH
- Environmental impact is not known regarding incinerators

MPPD

- Back stock of expiry at 'expiry warehouse' is a large challenge. No formal SOP in place to define disposal procedure. No authorization system in place for disposal.
- MPPD is beginning to use the private sector incinerator in Rwamagana. Cost is by kilo, paid by MPPD.
- Management of this process is under the quality unit at MPPD. Quality assurance manager identifies the product to be identified and makes a list (product, batch number, expiry dates) Waste is separated into

1) MPPD fund purchases: RRA must authorize the disposal, count and sign off
2) Partner funded purchases: RRA not involved. No report of disposal sent to partners.

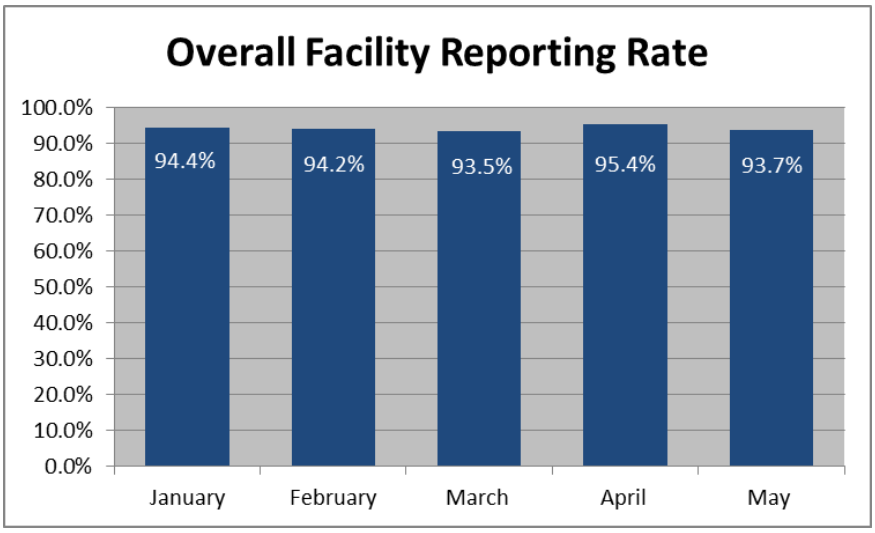
- Setting up a system that programs will incur the cost of incineration of their program product "management fee"

LMIS

Assessment Findings:

Facility reporting rates were high across all program products and all health facilities had reporting rates of over 90% for the entire assessment period. When analyzing the district pharmacies, data revealed that there were gaps with timeliness of reporting with only 63% of reports submitted on-time from January-June 2013. While reports were not always timely, the submitted reports were complete, with 92% of district pharmacy reports submitted fully completed.[2] (Only one of 15 district pharmacies failed to submit a complete report each month).

Figure 23: Facility Reporting Rate by Month



Strategic Planning Gaps Identified:

LMIS	
Gaps	
Governance/Policy	• LMIS data for essential medicines more adequate for monitoring but cannot be and are not used for decision making (MPPD will tend to use data on distribution vs. from LMIS)
Processes	• Data not visible in real time (one month old) • Undocumented procedures • Expiries management • Procedures for data sharing not applied or implemented
Resources (Human/Finance)	• LMIS is Largely funded by implementing partners, government needs to plan for alternative funding streams
Other Considerations	
Strengths - Data is available	**Threats** - Finite funds

[2]Complete refers to presence of key logistics data elements i.e-stock on hand, losses & adjustments and consumption

- Data use for decision making - Clear understanding of the use of the data - Procedure for data sharing exists at central level - Feedback Mechanisms in place at central level to DP - High reporting rates **Opportunities** - Increased District Pharmacies revenues - Electronic system to produce information real time - Visibility dashboard - Improved performance management, strategic planning etc. **Risks to opportunities** - Increase in revenue – loss of revenue because unreliable data **eLMIS:** - Not going live - System acceptance - System not meeting expectations	- Dependency - Misuse of the tools and data
Office equipment – Computer hardware/software	
Strengths - Working hardware exists - Working software **Opportunities** - Government buy in - Hosting Infrastructure Costs **Risks to opportunities:** - Government priorities may change - Change in infrastructure strategy	**Threats** - Funding (Lack of readily available funds) - Differing Priorities - Data Security

Human Resources

Assessment Findings:

Human resources capability varies for each supply chain functional area, with central level human resources generally scoring higher than those at the lower levels of the supply chain.

Figure 24: Human Resources Capability

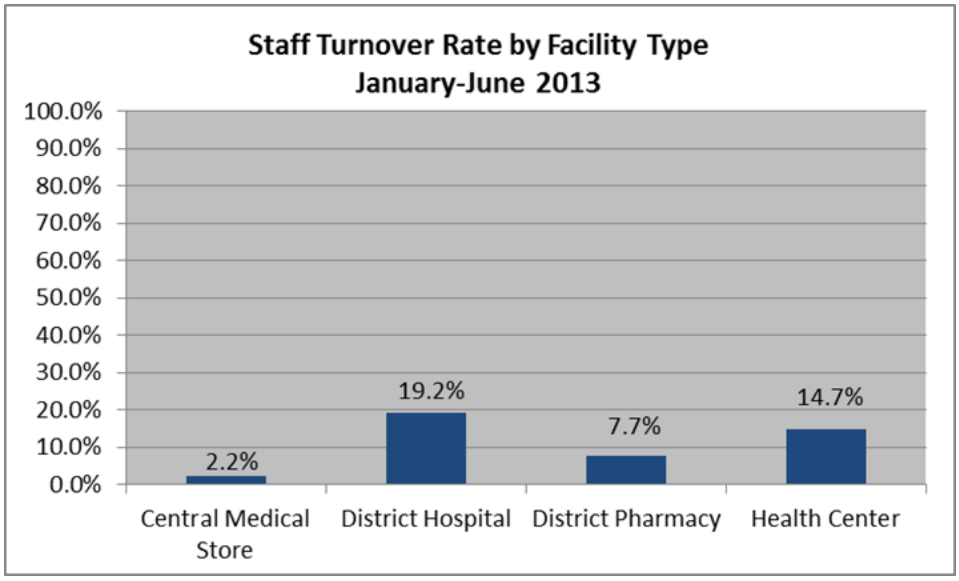
[3]Functional Area	Capability			
	Central	District Pharmacy	Health Facility	Overall
Forecasting & Supply Planning	80%			80%
Procurement	80%			80%
Warehousing	60%	66%		66%
Transportation	80%	70%		71%
Dispensing			38%	38%
Waste Management	80%	52%	36%	38%
Lab Issuing			40%	40%[4]

[3]Note: Product selection questionnaire does not contain any human resources capabilities.

Staff turnover rate was measured at all facilities assessed for the period of January-June 2013. For all supply chain levels the national staff turnover rate was 11%. Even though this is not an exceptionally high turnover rate, the impact of 11% of the health supply chain workforce leaving could have a significant impact on supply chain performance.

Staff turnover rate varied significantly at different types of facilities, ranging from 2.2% at MPPD to 19.2% at district hospitals.

Figure 25: Staff Turnover Rate by Facility Type



Strategic Planning Gaps Identified:

Human Resources	
Gaps	
	• Gap in number and skills of logistics practitioners particularly for rural areas - While PBF incentives exist for rural health facilities, they are not adequate to retain staff <u>Professionalization of SC for health</u> • Professionals in supply chain needed for MPPD (other than pharmacy pre-qualification) - We don't have enough real procurement experts for health commodities <u>Skill and Number Logistics Practitioners</u> • Gap in number and skills of logistics practitioners particularly for rural areas – even though incentives (such as PBF) exist for rural health facilities • Staffing levels in DPs not adequate to adequately perform all required functions; • In hospitals logistics management is not adequately defined and therefore not adequately staffed.

[4] Note: Overall scores are taken as the average of all scores reported for a given capability. Although the capability level may be high at the central level, this does not equitably reflect in the overall average due to the number of facilities per supply chain level (1 Central, 15 DP, 131 Health Facilities)

Performance Management	<u>Supervision</u> • Recognizing that supervision is a key function for performance monitoring and improvement, there are inadequate financial resources for DPs to conduct regular supervision

Other Considerations

<u>MPPD</u>

- The need for MPPD to have more staff was recognized at PS level and resulted in waiver request to Public Service to increase staffing
- Question finding in NSCA that MPPD is doing well in HR capability – workload vs. HR availability, etc.

<u>DPs/HFs</u>

- The need for DPs to have more than 1 staff is clear (with benefits up the chain) but financing for position is not secured (previously 1 year appointments secured with GF funds); approval for DPs to hire additional pharmacists from their own funds
- Ministry directive that those in charge of district pharmacies should not be assigned additional duties
- Pharmacist at HF can get overloaded (e.g., night duty)
- SC functions at DPs are more demanding than at HFs

<u>Turnover/Retention</u>

- Movement from the rural areas to the city to pursue education
- Central level staff are better motivated
- Nurses leaving to go to management/business to get better opportunities
- Salaries are better in the urban areas than the rural
- PBF differs from where one is located- PBF is higher in the rural areas than on the urban (based on resource income from the HF); PBF is not guaranteed and is tied to revenue.
- Indicators- Quarterly evaluation, peer evaluation, based on performance and is conducted on a quarterly basis
- MOH has classified regions depending on zones 1-4
- Part time employment is an incentive
- Families moving to reunite

<u>Supervision</u>

- No supervision to the facilities in as long as a year in some districts
- The partner that was funding this effort ended the program
- Result is that data for reporting is not accurate – e.g., reporting low patient data numbers caused stock outs
- Previously, integrated supervision used to support this effort, but programs still conducting vertical supervision program by program (from own resource mobilization)
- Funding issues at DPs- DPs have to make trade- offs between spending budget for supervision vs. drugs…
- Supervisors are always in the field and resistant to taking on different roles and resistant to quarterly visits
- Active distribution system was designed to piggyback the supervision process- challenge is it takes time and there are time constraints to implement distribution & supervision targets
- DPs budget for supervision in their AOP but it is not reflected in the management process
- Supervision tools available but no funds to support the supervision

<u>SC HR Professionalization & Development Plan</u>

- Definition of supply chain professional- not "anybody" can do supply chain
- Have an institution linked to the SC professionalization- advocating for professionalization of this function as SC specialist. Performance development plan to align to the professionalization and advocate for a certain number of cadres of SC

- No peer determination for HR in the SC. Lack of a clear HR development plan for the SC
- What is the right qualification for a SC professional- are pharmacists the right people? Or staff with specific SC expertise including planning, procurement, and management (especially at DP & higher levels?)
- Pre-service training for Nursing school – this was not to address the gaps in SC professionalization but more of an awareness creation program for nursing staff – Nursing training provided based on modules for SC
- Target training to the right category of SC professionals and not pharmacists who will strain to perform and are well versed with tender processes and draw from the expertise of the pharmacists

Other Areas

During the strategic planning workshop two other areas which impact the supply chain were discussed; including, financing and supply chain coordination & monitoring. The following gaps were identified during facilitated small group discussions.

Financing Gaps	
Governance/Policy	• No separate revolving drug fund in place to secure financing for continued drug procurement … but issue may be more of cash flow, from big amount of funds owed to MPPD, principally by referral hospitals (DPs are considered good customers) • EMs list not reviewed to see if drugs and treatment practices are cost effective (pharmaco-economics practice); EMs list also not reviewed against actual EMs procured. • MPPD concentrating more on procurement of drugs and not equipment (which DPs have funds to procure) – may need to clarify the entity to take mandate for quantifying capital equipment at peripheral level
Resources (Human/Finance)	• Through HFs and Hospitals, delayed payment of Mutuelles (and challenges in hospital financial management) affect ability of DPs to finance and revolve drug funds (no national budget allocation to DPs for drugs) ➔ Part of the delayed payment from HFs is 2-year old debts from unrecovered community health insurance and not just Mutuelle. ➔ DPs have outstanding accounts receivables for reimbursement by hospitals, and at times the hospitals do not pay on time. (some DPS are able to use their capital fund reserves to procure commodities for at least 6 months but may not always the case). ➔ DPs' outstanding debt in turn can affect MPPD fund availability for drugs ➔ Owing to non-availability of drugs, DPs may spend significant portion of drug funds in private sector (which in turn may bring about an audit issue • DP financial management also challenged by delayed delivery of drugs (DPs submit requests at the beginning of the year but commodities may be delivered at the end) • There is an overall funding gap for SC/logistics services (supervision, staffing, etc.)
Other Considerations	
<u>Strengths</u> • MPPD knows what they need to procure and each year there are numbers in the AOP for what is needed (with	

input from DPs on annual requirements)

- Commitment from the government that DPs to be paid within two weeks of the Invoice to health facilities
- Costing systems in place for drugs and other SC functions at DP level
- Some DPs have funds that could cover commodity procurements for over 6months even if re-payment by Mutuelle is delayed

Opportunities

- MOH guidance to DHs to have Pharmacy accounts though is not implemented
- List of essential medicines exists though there are commodities that need to be procured outside of this without clear guidance for non-common pathologies
- Reporting system: In past there was no reporting system to trace the financial flows from HFs and up and vice versa; the MOH was blind to where the $ was going…the contribution of Administrative Districts to Mutuelle was a particular challenge. *System was put in place to report regularly the financial status of each organization.* [Most DPs are good clients but some still not able to pay]. Ministry of Finance joined Min of Health to ensure debt does not limit CS…

Supply Chain Coordination & Monitoring	
Gaps	
Governance/Policy	• LMO does not figure in the structure of MOH (achieving this structure requires a Cabinet level approval) – question of whether this is being advocated and considering it will require budget allocation • There is no signed/approved document establishing LMO • Strategic benefit of LMO may not be evident to sector & GOR leaders • LMO leadership is overstretched with delegated authority for multiple major interventions; leadership role & responsibility not adequately designed • "Matrix" structure for reporting and accountability of LMO staff (LMO vs. Program) weakens the ability of LMO to organize and manage its activities; inadequate recognition that clinical role program-based LMO staff should be integrated in LMO responsibility (e.g., RDU) • Lack of strategy to implement and organize LMO activities, with timeline, budgets (HR funds are currently in programs), & monitoring • Lack of strategic and formal model for engaging stakeholders (programs, MPPD, etc.), bringing about linkages • Lack of budget for LMO staff
Processes	• No clear or defined channel of how the different levels of the supply chain communicate with each other • No clear channel of communication between at all levels;
Tools/Infrastructure	• Lack of coordination office/LMO • Lack of LMO infrastructure (despite efforts to secure space • Lack of pharmaceutical firms/manufacturer in Rwanda (dependency on outside suppliers as threat) • Lacking of financial resources • No physical office and LMO not fully functional
Other Considerations	

Strengths

Governance

- LMO exists – supported by high level Ministry Authority, documented in sector meeting minutes

- There are Human Resources appointed to support specific functions within the LMO
- These staff bring about linkages to different programs (malaria, HIV) and facilitate coordination within programs
- CPDS exists but is not supporting procurements outside HIV/AIDS

Inputs

- Financial resources (to support products and activities) are available - willing support from existing partners/funders (USAID/GF)

Tools

- Existing LMIS tools to capture data (including the upcoming eLMIS) and enable planning, and feedback reporting
- Strong use of LMIS tools & systems reflected in high reporting rates

Processes/Performance Management

- Quarterly feedback meetings are held with DPs in the more vertical programs to discuss stock-outs
- Weekly stock out report submitted
- System of weekly review in place to hold DPs and MPPD accountable for unplanned orders (weekly review)
- Some indicators at DP are used to base PBF indicator to measure, and monitor performance

Opportunity

- QC lab being set up for quality testing of pharmaceuticals
- National Drugs Authority coming up
- Opportunity to leverage regional systems & integration to reduce costs & increase accessibility of product: areas of inspection, registration, manufacturing

Threats

- Lack of pharmaceutical firms/manufacturer in Rwanda (dependency on outside suppliers as threat)

Strategic Objectives and Recommended Interventions

Based on the gap analysis conducted, stakeholders developed strategic objectives and corresponding interventions. While over 50 interventions were identified during the strategic planning process to address gaps in all the functional areas of the supply chain, the following 33 were further prioritized as key to achieving the 6 strategic objectives of the Strategic Plan. Interventions were rated as:

- short term (**ST**: 1-2 years),
- medium term (**MT**: 2-3 years) or
- long term (**LT**: 4-5 years)

The rating considered the sequencing of interventions over time, as well as the interdependence of interventions (which intervention needs to be completed before other interventions can be contemplated).

	Strategic Objective/ Recommended Key Interventions	ST	MT	LT
1.	**a) Operationalize the Logistics Management Office as the designated coordinating institution, with the priority objective to ensure the integration of SC stakeholders and activities.**			
1	Develop detailed TOR/SOW for the LMO, including SOP development for SC functions, supervision of SOP implementation and adherence to processes, use of performance management data to regularly inform decision making, coordination of the national quantification and supply planning of all commodities, establishment of	x		

Strategic Objective/ Recommended Key Interventions		ST	MT	LT
	a training function within the LMO to support continuous professional development.			
2	Staff up the LMO to fill all existing positions, and including new positions that will be created due to the increased need for LMO support in the implementation of the SC strategic plan.	x		
3	Allocate budget/funds for the LMO functions/responsibilities including office space and co-location of LMO staff for better coordination, resources for effective coordination of SC stakeholders.	x		
1. b) LMO to coordinate timely quantification, monitoring, and planning of all commodities, including essential medicines.				
4	Review existing guideline defining roles and responsibilities and SOPs for product selection and specification.	x		
5	Set up and maintain a database for product specifications of all vital medicines, in coordination with MPPD and DPs.		x	
6	Harmonize quantification processes and SOPs, and SOPs for monitoring and quarterly planning for all health commodities at national level (including putting in place a quantification committee for essential medicines); clarify roles and responsibilities of stakeholders (e.g., MPPD, LMO, programs, DPs), ownership of SOPs, and sharing of information for stakeholder action.	x		
7	Conduct quarterly reviews for each supply plan, including periodical shipment/procurement updates for all commodities.	x		
8	Develop a standardized electronic list for collection of essential medicines LMIS data to improve forecasting and routine (quarterly) supply planning.	x		
9	Complete the implementation and use of eLMIS as tool for providing real time logistic and forecasting/supply planning data.	x		
	- Ensure the availability of infrastructure and appropriate use of e-LMIS at all levels of the SC (SDPs, DPs and MPPD).	x		
2. By 2016, achieve a 100% level of capability for key functions of warehousing, transport and waste management using standardized business process best practices.				
1	Benchmark International standards for warehousing and transportation and adapt to the Rwanda context at all levels.	x	x	x
2	All levels of the SC (MPPD, DPs, HFs) adopt and maintain standardized processes		x	x
3	LMO develop, in collaboration with DPs/ DHS, procurement and financial procedures manuals and job aids.	x		
4	Review and standardize existing national pharmaceutical waste disposal guidelines tailored to all levels of the SC.	x	x	
5	Implement national pharmaceutical waste disposal guidelines of the SC, describing infrastructure standards.			x
6	Strengthen the community supply chain through implementation of Resupply Procedures and introduction of successful element of Quality Collaborative and Incentive for Community Supply Chain Improvement	x		
7	Promote professionalization of human resourcesfor SC to ensure adequate and skilled staff for SC functions:		x	
	- Evaluate skills gap to implement standardized processes and put in place professional SC staff to operate and manage processes.		x	

Strategic Objective/ Recommended Key Interventions		ST	MT	LT
	- Update pre-service curriculum for SC professionals based on existing materials in National University of Rwanda, and expand in collaboration with mid-**level**/high level educational institutions to cover more cadres beyond nursing; transfer ownership of intervention to LMO.		x	
	- Organize and manage continuous professional education programs for SC professionals with priority to rural staff in an effort to reduce staff turnover from the rural to the urban areas.			x
3.	**Put in place a robust performance management and information system for key functional areas at each level of the supply chain to guide timely decision-making and continuous improvement.**			
The critical path to this strategic objective is to have standardized business processed aligned to key SC functions at each level of the SC in Rwanda (HFs, DPs and Central level), from Strategic Objective #2.				
1	Develop KPIs to measure performance for each functional area and use data to inform decision making.		x	
2	Ensure SC stakeholders (MPPD, DPs, HFs, programs, NRL, etc.) are aligned with performance management KPIs and accountable for achieving their targets.		x	
3	Evaluate and implement management information system and plan to support performance measurement, monitoring and improvement.		x	
4	Develop staff evaluation mechanisms including performance contracts to increase staff productivity.		x	
4.	**Develop and monitor a tool/plan to ensure continuous availability of funds for health commodities and SC operations including planning for reduction in donor dependency where appropriate**			
1	Develop a tool/plan to reduce dependency on donor budgets and contingency for funds withdrawal.		x	
2	Advocate, using the tool, for sustainable securitization of resources for medicines and SC operations.		x	
3	Monitor cash flow for commodities across the SC (from HFs to MPPD) to ensure adequate financing for health commodities in the public sector.	x		
5.	**Streamline procurement processes to provide a timely and responsive procurement service, while complying with available and applicable procurement regulations and guidelines**			
1	Revise and optimize procurement SOPs to align them with the new procurement law, with regards to Framework contracts and RPPA approval for Special Cases as appropriate.	x		
	- Review skill gaps and put in place skilled SC professionals to implement and manage procurement operations.	x		
2	In short term, put in place MIS for procurement processes as appropriate.	x	x	
3	Implement new revised pre-qualification SOP.	x		
6.	**Strengthen Pharmaceutical Quality Assurance system through the MOH, leveraging regional systems**			
1	MOH develop pharmaceutical good practices/tools/SOPs and disseminate to all concerned levels while ensuring their Implementation.	x	x	
2	At MOH, strengthen medicine registration, import control and regular lab quality control leveraging regional systems.		x	
3	MPPD to collaborate with MOH in implementing prequalification of vendors,		x	x

Strategic Objective/ Recommended Key Interventions		ST	MT	LT
	including review of list with registered suppliers.			
4	Drug &Therapeutic Committees (DTCs): central responsible entity to support technical functioning of DTCs at hospitals, and DPs to supervise their effective implementation.		x	

Performance Management

Performance Management was identified as being key to the SC improvement process. Strategic Objective No. 3 primarily focusses on prioritized KPIs identified for tracking. Annex 6 details the measures in data dictionary, identifying the respective units/teams responsible for reporting on the measures, frequency and data sources.

Overall, the LMO was identified as the entity to provide oversight for most measures and hold each unit accountable for their measures. This list of proposed indicators will be further validated and elaborated in the Year 1 Implementation Plan, with documented procedures for collecting, analyzing and using the indicators to monitor overall implementation of the Strategic Plan. Below is a summarized framework for performance management by strategic objective.

Out of a list of 91 KPIs, a total of 20 KPIs were retained and mapped to the strategic objectives. During the alignment by strategic objective, each functional team also identified gaps in the KPIs and recommended additional KPIs that will help measure the performance of each strategic objective. Below is the full list of KPIs by strategic objective

SO1: a) Operationalize the LMO; b) LMO to coordinate the timely quantification, monitoring & planning of all commodities.

1.1 Implementation plan exists with activities outlined for each key LMO function
1.2 Forecast Accuracy
1.3 Stakeholders & partners involved in integrated quantification
1.4 % of product selection based on NEML
1.5 % of key LMO positions filled as outlined in staffing plan
1.6 No. of reviews of quantification & supply plans

SO2: Achieve a 100% level of capability for key functions of warehousing, transport and waste management using standardized business process

2.1 % capability of key functions
2.2 Staff Turnover Rate
2.3 % of employees completing performance reviews
2.4 No. of staff trained in key SC functions

SO3: Put in place a robust performance management system for key functional areas at each level of the supply chain

3.1 Order Fill Rate
3.2 On Time Delivery
3.3 % of functional areas meeting target levels of capability/ performance

SO4: Develop and monitor plan for continuous availability of funds for health commodities and SC operations

4.1 % of facilities operating with unrecovered debt during the review period[5]
4.2 % of public health supply chain budget funded by donors
4.3 Value of debt of health facilities to their pharma/commodity suppliers

SO5: Streamline procurement processes to provide timely and responsive procurement service

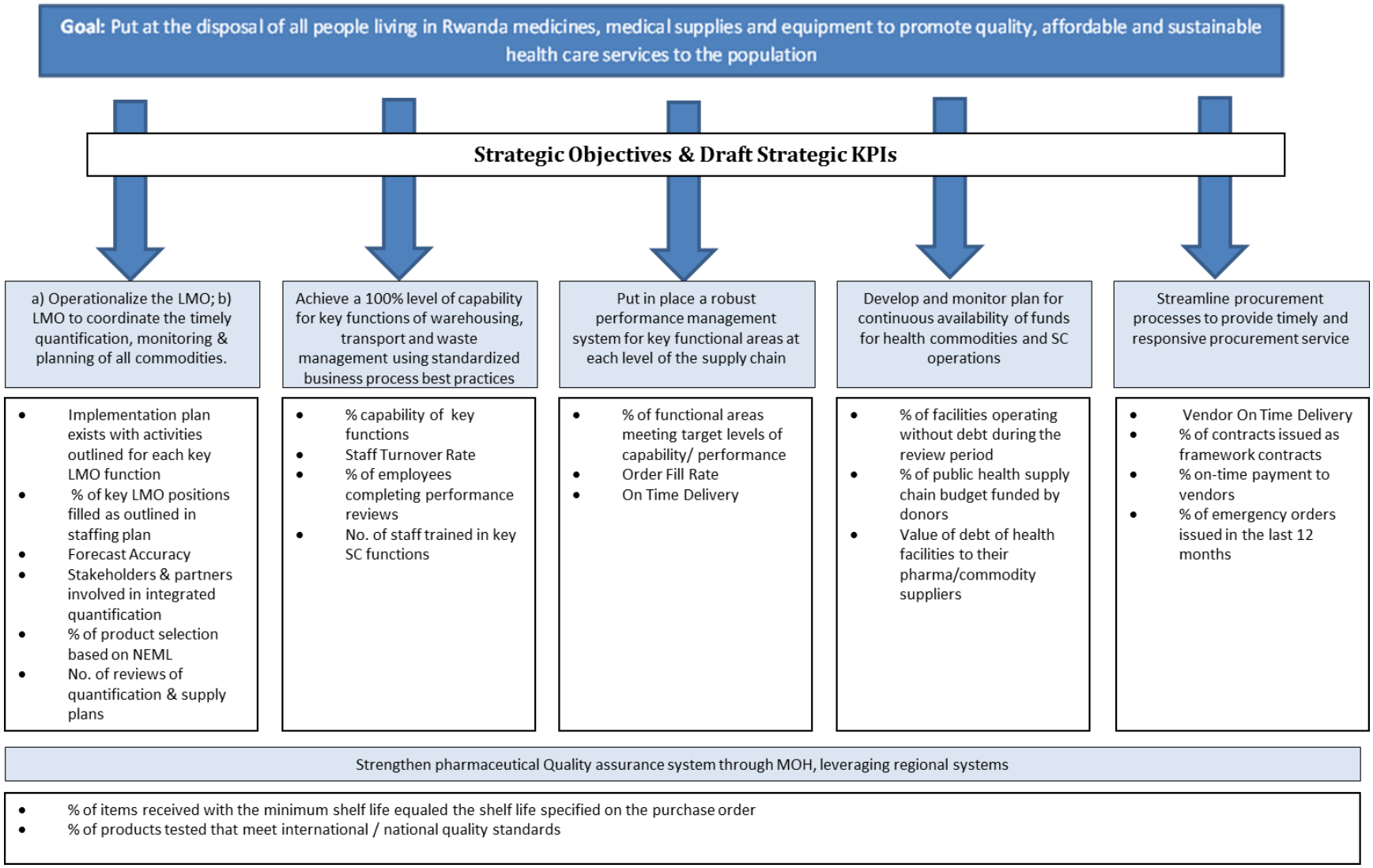
5.1 Vendor On Time Delivery
5.2 % of contracts issued as framework contracts
5.3 % on-time payment to vendors
5.4 % of emergency orders issued in the last 12 months

SO6: Strengthen pharmaceutical Quality assurance system through MOH, leveraging regional systems

6.1 % of items received with the minimum shelf life equaled the shelf life specified on the purchase order
6.2 % of products tested that meet international / national quality standards

[5]Changed from % of facilities without debt during the review period.

Performance Management Framework



Stakeholder Mapping

The successful implementation of the Rwanda SC Strategic Plan will rely on the execution of shared responsibility and accountability by various stakeholder groups, from government, donors and implementing partners. While the MOH will continue to have overall oversight of the functioning of the SC, it will depend on strategic units to manage specific functions and complete their respective contribution to ensuring availability of health commodities at the lowest levels. Effective collaboration and integration of stakeholder contributions will be critical to achieving a high performing SC. A RACI matrix is included below, identifying stakeholder roles by strategic objective. The RACI matrix underscores the burden of accountability and responsibility on the LMO for the implementation of the Strategic Plan. In this role of accountability, **it will be important to clearly empower the LMO vis-à-vis other stakeholder institutions, and support it in its critical role of holding stakeholder institutions responsible for their respective contributions and areas of accountability.**

- **R**- Responsible : indicating entity with overall oversight and strategic influence to achieve a given strategic objective or intervention
- **A**-Accountable : identifying the entity tasked to execute a strategic objective or intervention
- **C**-Contributor: relating to the entity that will provide assistance or give technical/ strategic input to achieving an objective or intervention
- **I**-Inform: identifying the entity to be informed of or to provide information to the efforts/activities of an objective or intervention in recognition of their strategic or operational involvement with the objective or intervention.

Objectives	DP	HFs	MOH	LMO	RBC					Partners (e.g., JSI)
					MPPD	NRL	NBTC	Programs	MCH	
Objective 1										
A. Operationalize the Logistics Management Office as the designated coordinating institution, with the priority objective to ensure the integration of SC stakeholders.			**A/R**	C	C	C		C	C	C
B. LMO to coordinate timely quantification, monitoring and planning of all commodities including Essential Medicines.	C		R	**A/R**	C	C	C	C	C	C
Objective 2										
By 2016, achieve 100% level of efficiency for the key functions of warehousing, transport and waste management using standardized business process best practices.			R	**R/A**						
→ *Use of standardized business practices at each level of the SC*	***A***	***A***			***A***	*C*	*C*			
Objective 3										
Put in place a robust performance management and information system for key functional areas at each level of the supply chain to guide timely decision-making and continuous improvement.	C	C	R	**R/A**	C	C	C	C	C	
Objective 4										
Develop and monitor a tool/plan to ensure continuous availability of funds for health commodities and SC operationsincluding planning for reduction in donor dependency where appropriate [at national/strategic level]	C	C	R	**A**	C	C	C	C	C	C
→ *Note on Key Intervention: Advocate, using the tool, for sustainable securitization of resources for medicines and SC*			***A***	*R*	*RBC Business Unit: R/A*					
Objective 5										
Streamline procurement processes to provide a timely and responsive procurement service, while complying with available and applicable procurement regulations and guidelines	I	I	R	C	**A**	C	C	C	C	C
Objective 6										
Strengthen pharmaceutical Quality Assurance system through MOHleveraging regional systems.			**R/A *(RFMA)***	C	C	C	C	C		

Annex 1. List of NSCA Participants

No	NAMES	RESPONSIBILITY	Institution
1.	Jean Mirimo	CPDS Coordinator	LMO
2.	Diane Mukundwa	LMIS Officer	
3.	Floribert Biziyaremye	TB Supply Chain Officer	RBC/TB Division
4.	Olivier Ngenzi Wane	MCH Commodities	MCH
5.	Josbert Nyirimigabo	HIV Specialist	RBC/HIV Division
6.	Cyprien Musafiri	Director Nyagatare DP	District Pharmacy
7.	Modeste Irategeka	Director Gicumbi DP	
8.	Joseph Mushinzimana	Director Burera DP	
9.	Francois Mbonyinshuti	Director Kirehe DP	
10.	Clement Rurangirwa	Director Bugesera DP	
11.	Moise Bagarirayose	Director Rubavu DP	
12.	Janvier Ndicunguye	Director Muhanga DP	
13.	Egide Muziganyi	Director Huye DP	
14.	Enode Habiyambere	Director Nyamasheke DP	
15.	Claudine Uwamariya	Director Musanze DP	
16.	Telesphore Habimana	Director Kamonyi DP	
17.	Eugène Shumbusho	Director Rutsiro DP	
18.	Charles Nzamutuma	LMIS Assistant	JSI R&T
19.	Max Kabalisa	MIS/IT Advisor	
20.	Gladys Muhire	MCH Senior Logistics Advisor	
21.	Augustin Usabayezu	LMIS Assistant	
22.	Melissa Levenger	Performance Management Unit Analyst	SCMS Head Office

Annex 2. Strategic Plan Workshop Agenda

Rwanda Consultative Strategic Planning Workshop

Palast Rock Hotel Bugesera, September 3rd, 2013

Goal: To develop a National Strategic Plan aimed at enhancing capability and performance of the National Pharmaceutical Supply Chain

Workshop Objectives

1. Define the role of the national strategic plan in the context of the Rwanda's Third Health Sector Strategic Plan.
2. To identify and prioritize strategic objectives for the Rwanda Supply Chain.
3. To identify strategic gaps in the Rwanda Supply Chain capability and performance.
4. To formulate priority strategic interventions to address the gaps in the medium term (2-3 years)
5. To develop Key Performance Indicators by intervention area for the Rwanda Supply Chain.
6. To map stakeholder support and resources in achievement of intervention targets.
7. To highlight next steps for the implementation of the Strategic Plan

Day 1

Time	Activity	Facilitator
8:30-9:00	Arrival /Registration	All participants
9:00-9:15	Welcome and Introductions Saul Kidde, Country Director, DELIVER/SCMS-Rwanda	Saul Kidde
9:15-9:30	Opening Remarks LMO/MPPD Representative	Joseph Kabatende
10:25-10:40	Overview of workshop methodology	Hany Abdallah
10:40-11:20	Summary and review of GOR guiding framework for setting strategic objectives for the National SC	Max Kabalisa
11:20-11:35	Break	All participants
11:35-12:00	Integrated Supply Chain Framework	Lillian Mugonyi-Nasser
12:00-1:00	Lunch	All Participants
1:00-1:40	Findings on the current state of the SC	Melissa Levenger
1:40-5:00	Strategic Capability and Performance Gap Analysis exercise Part I: 1. Product selection & Use 2. Warehousing, Inventory Management & Waste Management 3. SC Coordination and Performance Monitoring	All Participants

	4. LMIS & Dispensing Part II: 1. Procurement &QA [James] 2. Distribution [Max] 3. Forecasting and supply planning [Phil] 4. Human Resources and Financing [Lillian/Hany]	
5:00-5:15	Wrap up of day activities and Next steps	Lillian Mugonyi-Nasser

Day 2

Time	Activity	Facilitator
8:30-9:00	Arrival /Registration	All Participants
9:00-10:15	Finalization of Group Discussion 1. Waste Management 2. Transportation 3. Financing 4. LMIS	 James Max Lillian/Hany Phil
10:15-1:00	Small Groups Report Back Part 1	All Participants
11:00-11:15	**Break**	
11:15-1:00	Small Group Report Back	All Participants
	Lunch	
2:00-3:20	Small Group Strategic Interventions and Objective setting (Discussion Part 1) 1. Product selection and Use 2. Warehousing, Inventory Management 3. SC Coordination and Monitoring 4. Forecasting and Supply Planning	 James Max Hany/Lillian Phil
3:20-3:35	**Break**	
3:35-5:00	Small Group Strategic Interventions and Objective setting (Discussion Part 2) 1. Procurement and Waste Management 2. Transportation [Max] 3. Forecasting and supply planning 4. Human Resources and Financing	 James Max Phil Lillian/Hany
5:00-5:15	Wrap up of Day Activities	Max

Day 3

Time	Activity	Facilitator
8:00-8:30	Arrival /Registration	All Participants
8:30-8:45	Introduction of strategic objective formulation session	Hany/Melissa
8:45-10:15	Small Groups Discussion on Objective setting	All Participants
10:15-10:35	**Break**	
10:35-1:00	Small Group Discussion (continued)	All Participants

1:00-2:00	Lunch	
2:00-3:30	Report Back from small groups	Team Representative
3:30-3:50	**Break**	
3:50-4:45	Report Back from small groups	Team Representative
4:45-5:00	Gallery Walk (Prioritization of Interventions)	All Participants
5:00-5:15	Close of the Day	Hany

Annex 3: Strategic Planning Workshop Participants

No	NAMES	RESPONSIBILITY	Institution
1.	Jean Mirimo	CPDS Coordinator	LMO
2.	Diane Mukundwa	LMIS Officer	
3.	Anicet Nyawakira	Medicines Information Officer	
4.	Gladys Akimana	Pharmacovigilance Officer	
5.	Frederic Muhoza	Supervision Officer	
6.	Joseph Kabatende	LMO Coordinator	
7.	Joyce Icyimpaye	Drug Quantification Specialist	MPPD
8.	Charles Sasita	Director Warehouse Operations	
9.	Anna Musielak	Supply Chain Consultant	
10.	Nathalie Ngabo	Malaria Commodities Officer	RBC/Malaria Division
11.	Floribert Biziyaremye	TB Supply Chain Officer	RBC/TB Division
12.	Olivier Ngenzi Wane	MCH Commodities	MCH
13.	Josbert Nyirimigabo	HIV Specialist	RBC/HIV Division
14.	Cyprien Musafiri	Director Nyagatare DP	District Pharmacy
15.	Modeste Irategeka	Director Gicumbi DP	
16.	Pierrot Muhigirwa	Director Ruhango DP	
17.	Godelive Gakinahe	Director Nyarugenge DP	
18.	Emmanuel Bimenyimana	Director Rusizi DP	
19.	Joseph Mushinzimana	Director Burera DP	
20.	Francois Mbonyinshuti	Director Kirehe DP	
21.	Clement Rurangirwa	Director Bugesera DP	
22.	Eric Karangwa	Lab Specialist	NRL
23.	Emmanuel Kabalisa	Lab Specialist	
24.	Kelly Hamblin	Supply Chain Advisor	USAID
25.	Max Kabalisa	MIS/IT Advisor	JSI R&T
26.	Philipe W Lule	e-LMIS Project Manager	
27.	Saul Kidde	Country Director	
28.	Gladys Muhire	MCH Senior Logistics Advisor	
29.	Laetitia Gahimbare	Senior HIV and Lab advisor	
30	William Uwizeye	HIV Logistic Advisor	
31	James Ochuka	Procurement Advisor	
32	Augustin Usabayezu	LMIS Assistant	
33	Hany Abdallah	Global Program Manager – Facilitator	SCMS
34	Lillian Mugonyi-Nasser	Program Officer – Facilitator	
35	Melissa Levenger	Performance Management Unit Advisor	

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